Appl. No. 10/618,271
Amdt. sen June 14, 2006
Reply to Office Action of February 17, 2006

PATENT

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims**

1        1.        (Currently amended):  A method <u>for a disk device</u> of authenticating disk
2    management information of a disk to certify validity of management information recorded on the
3    disk, comprising ~~the step of~~:
4            <u>initiating stop-processing; and</u>
5            <u>subsequent to initiating stop-processing,</u> recording authentication information on
6    the disk on which the management information is recorded, the authentication information
7    confirming validity of the management information.

1        2.        (Currently amended):  A method <u>in a disk device for</u> ~~of~~ authenticating disk
2    management information of a disk to certify validity of management information recorded on the
3    disk, comprising the steps of:
4            recording authentication information on the disk on which the management
5    information is recorded, thereby certifying that the management information is valid; and
6            recording invalidating information on the disk on which the management
7    information and the authentication information are recorded, thereby invalidating certifying
8    effect of the authentication information,
9            <u>the step of recording invalidating information being performed during startup</u>
10    <u>processing by the disk device.</u>

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1        3.    (Currently amended):  A method of authenticating disk management

2    information ~~according to claim 2,~~ of a disk using a disk device to certify validity of management

3    information recorded on the disk comprising the steps of:

4        recording, during stopping processing of a disk device in which the disk is loaded,

5    authentication information in a power calibration area on the disk if validity of the management

6    information is confirmed~~; and~~

7        ~~recording invalidating information, before data recording processing, in response~~

8    ~~to a data recording request first received after the disk device is started~~.

1        4.    (Currently amended):  A method of authenticating disk management

2    information according to claim 3 ~~claim 2~~, comprising the steps of:

3        sequentially and additionally recording authentication information and

4    invalidating information in ~~one~~ the power calibration area on the disk;

5        regarding the management information on the disk as valid if invalidating

6    information is absent after authentication information last recorded on the disk; and

7        regarding the management information on the disk as invalid if invalidating

8    information is present after authentication information last recorded on the disk.

1        5.    (Currently amended):  A method of authenticating disk management

2    information according to claim 3 wherein the invalidation information uses a power calibration

3    pattern recorded in the power calibration area, and if the last recorded calibration pattern is a test

4    pattern, then the disk management information is deemed to be invalid. ~~claim 2, comprising the~~

5    ~~steps of:~~

6        ~~recording authentication information and invalidating information in a power~~

7    ~~calibration area on the disk; and~~

8        ~~using, as invalidating information, a power calibration pattern recorded in the~~

9    ~~power calibration area.~~

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1     6.  (Currently amended):  A disk device, comprising:

2     means for recording authentication information <u>in a power calibration area on a</u>

3 <u>disk</u> to certify validity of management information <u>in a recording management area on the</u><del>on a</del>

4 disk and invalidating information to invalidate certifying effect of the authentication information,

5 <u>in the power calibration area</u> on the disk on which the management information is recorded; and

6     means for determining whether or not the management information on the disk is

7 valid by confirming the authentication information and the invalidating information on the disk.

1     7.  (Currently amended):  A disk device according to claim 6, wherein:

2     the authentication information is recorded<del>, in</del> <u>during the time that</u> stopping

3 processing of the disk device <u>is being performed</u>, if validity of the management information is

4 confirmed; and

5     the invalidating information is recorded, before data recording processing, in

6 response to a data recording request first received after the disk device is started.

1     8.  (New):  A method of authenticating disk management information

2 according to claim 3, wherein the authentication information is a copy of the disk management

3 information, and if the information last recorded in the power calibration area is the same as the

4 disk management information, then the disk management information is deemed to be valid.